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| FORM PTO-1449, and B (modified PTO/SB/08) INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | APPLICATION NO.: 10/823,093 | | ATTY. DOCKET NO.: M0925.70143US00 | |
| | | FILING DATE: April 12, 2004 | | CONFIRMATION NO.: 3154 | |
| | | APPLICANT: Timothy M. Swager et al. | | | |
| | | GROUP ART UNIT: 1797 | | EXAMINER: Kurt A. Moss | |
| Sheet | 1 | of | 4 | | |

U.S. PATENT DOCUMENTS

| Examiner's Initials # | Cite No. | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication or Issue of Cited Document MM-DD-YYYY |
|-----------------------|----------|----------------------|-----------|---|---|
| | | Number | Kind Code | | |
| /D.S.M./ | A1 | 5,629,353 | | Steckle, Jr. et al. | 05-13-1997 |
| /D.S.M./ | A2 | 5,710,187 | | Steckle, Jr. et al. | 01-20-1998 |
| /D.S.M./ | A3 | 6,509,110 | | Salbeck et al. | 01-21-2003 |
| | A4 | 6,556,335 | | Jones et al. | 04-29-2003 |
| /D.S.M./ | A5 | 6,605,693 | | Becker et al. | 08-12-2003 |
| /D.S.M./ | A6 | 6,743,640 | A1 | Whitten et al. | 06-01-2004 |
| /D.S.M./ | A7 | 6,962,757 | | Epstein et al. | 03-04-2004 |
| /D.S.M./ | A8 | 7,186,355 | | Swager et al. | 03-06-2007 |
| /D.S.M./ | A9 | 7,208,122 | A1 | Swager et al. | 04-24-2007 |
| /D.S.M./ | A10 | 7,291,503 | | Swager et al. | 11-06-2007 |
| /D.S.M./ | A11 | 2002/0177136 | A1 | McBranch et al. | 11-28-2002 |
| /D.S.M./ | A12 | 2003/0054413 | A1 | Kumaraswamy et al. | 03-20-2003 |
| /D.S.M./ | A13 | 2004/0175768 | A1 | Kushon et al. | 09-09-2004 |
| /D.S.M./ | A14 | 2004/0241768 | A1 | Whitten et al. | 12-02-2004 |
| /D.S.M./ | A15 | 2005/0014160 | A1 | Kumaraswamy et al. | 01-20-2005 |
| /D.S.M./ | A16 | 2006/0024707 | A1 | Deans et al. | 02-02-2006 |

FOREIGN PATENT DOCUMENTS

| Examiner's Initials # | Cite No. | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Translation (Y/N) |
|-----------------------|----------|-------------------------|----------|-----------|---|--|-------------------|
| | | Office/Country | Number | Kind Code | | | |
| /D.S.M./ | B1 | EP | 0581058 | A1 | Hoechst AG | 02-02-1994 | |
| | B2 | WO | 89/00593 | | Memtec Limited | 01-26-1989 | |
| | B3 | WO | 95/16681 | | Trustees of the Univ. of Pennsylvania | 06-22-1995 | |
| /D.S.M./ | B4 | WO | 99/19419 | A1 | Aventis Research & Tech. GMBH & Co. | 04-02-1999 | |
| /D.S.M./ | B5 | WO | 00/53655 | A1 | AXIVA GMBH | 09-14-2000 | |
| /D.S.M./ | B6 | WO | 01/57140 | A1 | Massachusetts Institute of Technology | 08-09-2001 | |
| | B7 | WO | 02/16463 | A2 | Massachusetts Institute of Technology | 02-28-2002 | |

OTHER ART - NON PATENT LITERATURE DOCUMENTS

| Examiner's Initials # | Cite No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | Translation (Y/N) |
|-----------------------|---------|---|-------------------|
| /D.S.M./ | C1 | ABRAHAM et al., "Hydrogen bonding. Part 29. Characterization of 14 Sorbent Coatings for Chemical Microsensors using a New Solvation Equation," J. Chem. Soc. Perkin Trans. 1995, 2, 369-378., month unknown. | |
| /D.S.M./ | C2 | ACHYUTHAN et al., "Fluorescence Superquenching of Conjugated Polyelectrolytes: Applications for Biosensing and Drug Discovery," J. Mat. Chem. 2005, 15, 2648., month unknown. | |

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|---|---|----|---|-------------------------------------|--------------------------------------|
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| | | | |
|----------|-----|--|--|
| /D.S.M./ | C3 | AMARA et al., "Synthesis and Properties of Poly(phenylene ethynylene)s with Pendant Hexafluoro-2-propanol Groups," Macromolecules 2005, 38, 9091-9094, month unknown. | |
| /D.S.M./ | C4 | BERGSTEDT et al., "Superquenching of Fluorescent Polyelectrolytes and its Applications for Chemical and Biological Sensing," Proc. SPIE 2001, 4279, 94., month unknown. | |
| /D.S.M./ | C5 | CHEN et al., "Surfactant-induced Modification of Quenching of Conjugated Polymer Fluorescence by Electron Acceptors: Applications for Chemical Sensing," Chem. Phys. Lett. 2000, 330, 27, month unknown. | |
| | C6 | CHEN et al., "Tuning the Properties of Conjugated Polyelectrolytes through Surfactant Complexation," J. Am. Chem. Soc. 2000, 122, 9302-9303, month unknown. | |
| /D.S.M./ | C7 | DENG et al., "Direct Observation of the "Pac-Man" Effect from Dibenzofuran-Bridged Cofacial Bisporphyrins," J. Am. Chem. Soc. 2000, 122, 410-411., month unknown. | |
| /D.S.M./ | C8 | FAN et al., "High-Efficiency Fluorescence Quenching of Conjugated Polymers by Proteins," J. Am. Chem. Soc. 2002, 124, 5642., month unknown. | |
| /D.S.M./ | C9 | FAN et al., "Photoluminescence Quenching of Water-Soluble, Conjugated Polymers by Viologen Derivatives: Effect of Hydrophobicity," Langmuir 2003, 19, 3554. Published on Web, 03/19/2003. | |
| /D.S.M./ | C10 | FAN et al., "Beyond Superquenching: Hyper-Efficient Energy Transfer from Conjugated Polymers to Gold Nanoparticles," PNAS 2003, 100(11), 6297., month unknown. | |
| /D.S.M./ | C11 | GAYLORD et al., "DNA Hybridization Detection with Water-Soluble Conjugated Polymers and Chromophore-Labeled Single-Stranded DNA," J. Am. Chem. Soc. 2003, 125, 896., month unknown. | |
| /D.S.M./ | C12 | GAYLORD et al., "SNP Detection Using Peptide Nucleic Acid Probes and Conjugated Polymers: Applications in Neurodegenerative Disease Identification," PNAS 2005, 102(1), 34., month unknown. | |
| /D.S.M./ | C13 | GRATE, "Acoustic Wave Microsensor Arrays for Vapor Sensing," Chem Rev. 2000, 100, 2627-2648, month unknown. | |
| /D.S.M./ | C14 | GRATE et al., "Hydrogen Bond Acidic Polymers for Surface Acoustic Wave Vapor Sensors and Arrays," Anal. Chem. 1999, 71, 1033-1040, month unknown. | |
| /D.S.M./ | C15 | HERBICH et al. "Fluorescence Quenching by Pyridine and Derivatives Induced by Intermolecular Hydrogen Bonding to Pyrrole-Containing Heteroaromatics," J. Phys. Chem. A. 2002, 106, 2158-2163, month unknown. | |
| /D.S.M./ | C16 | HOFFMEISTER et al., "Triptycene Polymers," J. Polymer Science 1969, 7, 55-72., month unknown. | |
| /D.S.M./ | C17 | JONES et al., "Tuning of Superquenching in Layered and Mixed Fluorescent Polyelectrolytes," J. Am. Chem. Soc. 2001, 123, 6726., month unknown. | |
| /D.S.M./ | C17 | JONES et al., "Building Highly Sensitive Dye Assemblies for Biosensing from Molecular Building Blocks," PNAS 2001, 98(26), 14769., month unknown. | |
| /D.S.M./ | C19 | KUMARASWAMY et al., "Fluorescent-Conjugated Polymer Superquenching Facilitates Highly Sensitive Detection of Proteases," PNAS 2004, 101(24), 7511, month unknown. | |
| /D.S.M./ | C20 | KUSHON et al., "Detection of Single Nucleotide Mismatches via Fluorescent Polymer Superquenching," Langmuir 2003, 19, 6456, month unknown. | |
| /D.S.M./ | C21 | LEVITSKY, et al., "Rational Design of a Nile Red/Polymer Composite Film for Fluorescence Sensing of Organophosphonate Vapors Using Hydrogen Bond Acidic Polymers," Anal. Chem. 2001, 73, 3441-3448, month unknown. | |
| /D.S.M./ | C22 | LEVITSKY, et al., "Signal Amplification in Multichromophore Luminescence-Based Sensors," J. Phys. Chem. B, 2001, 105, 8468-8473., month unknown. | |
| /D.S.M./ | C23 | LIU et al., "Homogeneous Fluorescence-Based DNA Detection with Water-Soluble Conjugated Polymers," Chem Mater. 2004, 16, 4467, month unknown. | |
| /D.S.M./ | C24 | LIU et al., "Optimization of the Molecular Orbital Energies of Conjugated Polymers for Optical Amplification of Fluorescent Sensors," J. Am. Chem. Soc. 2006, 128, 1188, month unknown. | |
| /D.S.M./ | C25 | LIU et al., "Methods for Strand-Specific DNA Detection with Cationic Conjugated Polymers Suitable for Incorporation into DNA Chips and Microarray," PNAS 2005, 102(3), 589., month unknown. | |
| /D.S.M./ | C26 | LU et al., "Superquenching in Cyanine Pendant Poly(L-lysine) Dyes: Dependence on Molecular Weight, Solvent, and Aggregation," J. Am. Chem. Soc. 2002, 124(3), 483, month unknown. | |
| /D.S.M./ | C27 | LU et al., "Surface-Enhanced Superquenching of Cyanine Dyes as J-Aggregates on Laponite Clay Nanoparticles," Langmuir 2002, 18, 7706, month unknown. | |

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|---|---|----|---|-------------------------------------|-----------------------------------|
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| Sheet | 3 | of | 4 | | |

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|----------|-----|--|--|
| /D.S.M./ | C28 | LU et al., "Biocidal Activity of a Light-Absorbing Fluorescent Conjugated Polyelectrolyte," <i>Langmuir</i> 2005, 21, 10154, month unknown. | |
| /D.S.M./ | C29 | LU et al., "'Cyanine Pendant' Polymers on Nanoparticles and in Solution; Superquenching and Sensing Applications," <i>Polym. Mat. Sci. Eng.</i> 2002, 86, 17, month unknown. | |
| /D.S.M./ | C30 | LU et al., "Self-Assembled 'Polymers' on Nanoparticles: Superquenching and Sensing Applications," <i>Polymer Preprints</i> , 2002, 43, 124, month unknown. | |
| /D.S.M./ | C31 | MARTIN, et al., "Picosecond Laser Photolysis Studies of Deactivation Processes of Excited Hydrogen-Bonding Complexes. 2. Dibenxocarbazole-Pyridine Systems," <i>J. Phys. Chem.</i> 1982, 86, 4148-4156, month unknown. | |
| /D.S.M./ | C32 | MCGILL, et al., "Choosing polymer coatings for chemical sensors," <i>Chemtech</i> 1994, 24, 27-37, month unknown. | |
| /D.S.M./ | C33 | MIYASAKA, et al., "Femtosecond-Picosecond Laser Photolysis Studies on the Mechanisms of Fluorescence Quenching Induced by Hydrogen-Bonding Interactions - 1-Pyrenol-Pyridine Systems," <i>J. Phys. Chem.</i> 1993, 97, 8222-8228, month unknown. | |
| /D.S.M./ | C34 | PATEL, et al., "Chemicapacitive microsenors for volatile organic compound detection," <i>Sensors and Actuators B</i> , 2003, 96, 541-553, month unknown. | |
| /D.S.M./ | C35 | PINNADUWAGE, et al., "Detection of 2,4-dinitrotoluene using microcantilever sensors," <i>Sensors and Actuators B</i> , 2004, 99, 223-229, month unknown. | |
| /D.S.M./ | C36 | RININSLAND et al., "High-Throughput Kinase Assays with Protein Substrates Using Fluorescent Polymer Superquenching," <i>MBC Biotech.</i> 2005, 5, 16, month unknown. | |
| /D.S.M./ | C37 | RININSLAND et al., "Metal Ion-Mediated Polymer Superquenching for Highly Sensitive Detection of Kinase and Phosphatase Activities," <i>PNAS</i> 2004, 101(43), 15295, month unknown. | |
| /D.S.M./ | C38 | THOMAS, III et al., "Conjugated Polymer Sensors: Design Principles Towards Enhanced Versatility," presented at the Army Science Conference, December 2004. | |
| /D.S.M./ | C39 | THOMAS, III et al., "Conjugated Polymer Sensors: Detection of DMNB and Hydrazine," presented to the American Chemical Society at the 230 th National Meeting, Washington, D.C. (28 August - 1 September 2005). | |
| /D.S.M./ | C40 | THOMAS, III et al., "Conjugated Polymer Sensors: Detection of DMNB and Hydrazine," presented at the Materials Research Symposium, Boston, MA (December 2005). | |
| /D.S.M./ | C41 | THOMAS, III et al., "Amplifying fluorescent polymer sensors for the explosives taggant 2,3-dimethyl-2,3-dinitrobutane (DMNB)," <i>Chem. Commun.</i> 2005, 4572-4574, month unknown. | |
| /D.S.M./ | C42 | THOMAS, III et al. "Trace Hydrazine Detection with Fluorescent Conjugated Polymers: A Turn-On Sensory Mechanism," <i>Adv. Materials</i> 2006, 18, 1047-1050, month unknown. | |
| /D.S.M./ | C43 | WALUK, "Hydrogen-Bonding-Induced Phenomena in Bifunctional Heteroazaaromatics," <i>Acc. Chem. Res.</i> 2003, 36, 832-838, month unknown. | |
| /D.S.M./ | C44 | WANG et al., "Fluorescein Provides a Resonance Gate for FRET from Conjugated Polymers to DNA Intercalated Dyes," <i>J. Am. Chem. Soc.</i> 2004, 126, 5446, month unknown. | |
| /D.S.M./ | C45 | WANG et al., "Photoluminescence Quenching of Conjugated Macromolecules by Bipyridinium Derivatives in Aqueous Media: Charge Dependence," <i>Langmuir</i> 2001, 17, 1262, month unknown. | |
| /D.S.M./ | C46 | WANG et al., "Photoluminescence of Water-Soluble Conjugated Polymers: Origin of Enhanced Quenching by Charge Transfer," <i>Macromolecules</i> 2000, 33, 5153, month unknown. | |
| /D.S.M./ | C47 | WANG et al., "Biosensors from Conjugated Polyelectrolyte Complexes," <i>PNAS</i> 2002, 99(1), 49, month unknown. | |
| /D.S.M./ | C48 | WHITTEN et al., "From Superquenching to Biodetection: Building Sensors Based on Fluorescent Polyelectrolytes," Chapter 4, <i>Optical Sensors and Switches</i> , New York: Marcel Dekker, 2001, month unknown. | |

/Daniel S. Metzmaier/

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| Sheet | 4 | of | 4 | | |

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|----------|-----|--|--|
| /D.S.M./ | C49 | XIA et al., "Applications of Fluorescent Polymer Superquenching to High Throughput Screening Assays for Protein Kinases," Assay and Drug Dev. Tech. 2004, 2, 183, month unknown. | |
| /D.S.M./ | C50 | XIA et al., "A High-Throughput Screening Assay for Kinases and Phosphatases via Metal Ion-Mediated Fluorescent Polymer Superquenching," American Laboratory 2004, 36, 15, month unknown. | |

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| EXAMINER: /Daniel S. Metzmaier/ | DATE CONSIDERED: 02/17/2010 |
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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